Item number 2 above is impossible to completely control because every year's weather, crop sequence, and methodology of operations will vary. Under certain circumstances, a case study effort could even be rendered useless because of weather, farmer finance, or other induced changes unrelated to the conservation treatment.

How should the information be displayed?

Exhibit 1 illustrates one way case study information could be displayed for use with a new cooperator.

The left-hand column shows the kinds, amount and timing of actions undertaken by the case study farmer in the "before treatment" or benchmark condition.

The second column from the left shows the effects of those actions. This data is recorded during elements 4 and 5 of the planning process.

The third column from the left shows the impacts (changes) of adopting the option displayed in Exhibit 2. Again, the impacts are the differences between the effects observed in the "before treatment" benchmark condition and those effects realized in the option or "after treatment" condition. The evaluation of impacts essentially constitutes element 10 of the planning process.

Finally, the last or right-hand column shows the farmer's perception of the value of those impacts. Such a display of the case study information can be especially helpful to assist a new farmer to decide whether or not to develop a conservation plan.

Care and good judgement must be used in deciding whether to use the participating farmer's name when presenting results to others. Ideally, the case study farmer would consent to the public use of the results and also be an esteemed local resident. However, if confidentiality is a concern, case study information can be presented carefully without reference to the particular cooperating farmer.

How do I handle multi-year rotations?

Information from each of the years of a multi-year rotation must be collected and kept separate. If a multi-year rotation is the conservation option you are evaluating, and you want to compare it with a continuous crop benchmark condition, then you will need to do some summarizing and averaging over those years to make comparisions.

Some planning assistance from the area or state office may be needed for your first case study efforts, but you will soon develop a good idea for handling multi-year rotations and other complications. The point to remember is that you must collect the information regarding the kinds, amounts and timing of actions and the resulting effects for each year of the treatment rotation that is different from the benchmark or "before treatment" condition. Exhibit 1 displays an example of a two-year rotation.

Case Study Information Needs Summary

The following is a comprehensive list for conducting case studies that evaluate change. Some case studies (see page 4 "Alternative types...") would not need "before treatment" data.

(See Exhibit 4 "Case Study Guidance Summary" for an outline of the steps to conduct a case study)

1. Benchmark or "before treatment" resource and landuse situation (soil mapping unit, slope range, crop rotation, etc.), problems and opportunities;

2. The Farmer's objectives, concerns and understanding of his resource condition and trends;

3. Treatment response to problem: Kinds, amounts and timing of actions whether practice or system specific;

4. Conservation effects by relevant resources: land, air, water, plants, animals and as they relate to on-farm operations. The effects measured could be, e.g., soil pH, nutrient or pesticide loadings, or management related, etc., but will invariably include the physical and biological effects. Profitability might also be included;[2]

5. Conservation impacts (optional for use with alternative methods 1 and 2 covered previously): The changes that occur as a result of treatments applied (the difference between "before treatment" or the Benchmark conditions and the Option or "after treatment" conditions); change in profitability might also be included.

6. Other impacts, such as changes that occur which we cannot attribute to the conservation treatment: these include changes that we are unable to explain or quantify, but which are observable.

7. Did the "after treatment" condition fulfill SCS/District goals as well as the farmer's needs and objectives?

8. Other observations? Lessons learned? Information gaps and research needs?

Remember that the purpose is to develop meaningful effects information that can help explain the features and benefits of conservation treatments.

Developing Case Studies in a Group Setting

One of the most interesting and productive ways to develop case studies is through the simultaneous conduction of numerous studies by a group of employees working within a specified geographic area.

Group interaction could greatly facilitate development of case studies and training in their development and use. For example, suppose that each conservation planner within a given area develops one complete case study during the fiscal year.

[2] Information on the costs and returns associated with a case study can be developed to help market conservation. Consult your state economist for assistance.

Assuming that they could be completed within one year, such an effort could be part of a regional staff meeting, e.g., an Area/Field Office meeting. The initial meeting could be used to explain the case study process, set objectives, develop farmer selection criteria, identify and assign study priorities, and establish target dates for review and completion.

In order to gain the most from group interaction, case studies could either be assigned so that all participants work on the same resource/landuse situation or on completely different situations.

Working in one group would concentrate attention on a common theme and enrich the depth of mutual understanding of both the case study process and the technical aspects of treatments. Working individually or in small groups would facilitate a broader understanding of multiple situations and avoid duplication of efforts.

At subsequent staff meetings, planners could make a brief report on their case study progress. The conservation plan itself, as well as the case study, will likely be improved by the observations, questions, and suggestions of your colleagues. Omissions or needs for additional effort might be identified with everyone benefiting from the experience of others. Such efforts would have a positive influence on the participant's interest in case studies and the quality of the work performed.

Once the first follow-up session has been completed, studies, reports, or display sheets could be shared among the participants to maximize the transfer of information. Examples of particularly effective write-ups and data displays will be helpful to everyone involved even if the data itself is not pertinent for use in other areas.

In subsequent years, effort should be directed towards filling the gaps in our understanding of existing case studies and determining other potential case study topics that could be developed in the future. Improvements could be achieved through additional data on already completed case studies and additional efforts with new farmers.

In most cases, planners should be encouraged to undertake at least one case study per year to maintain their skills of observation, analysis and reporting.

Summary and Conclusions

Conducting case studies should not require significant efforts beyond normal conservation planning activities. Properly structured, they will provide more insights on actual results from conservation treatments experienced by producers in your area.

These insights will improve your knowledge of the outcomes experienced by farmers. Therefore, you will be able to express your recommendations for treatment in a more credible manner because of greater "product" knowledge and understanding. Farmers will recognize this expertise and your effectiveness will increase accordingly.

You will also be better able to apply "Professional Selling Skills" and other conservation marketing concepts to identify and target priority resource problems and potential cooperators.

Case studies will also help build a permanent record of treatment results that are very useful for selling conservation and that won't disappear as employee retirements and transfers occur. They should also serve technology transfer purposes when shared between field offices and with other interested parties. The information contained in a case study enables planners with various levels of experience to have access to the knowledge of the best.

Finally, going through the process of developing and evaluating a case study could be an excellent training exercise for new employees to refine their knowledge of planning and to enhance measurement skills and use of the predictive models.